



# Seismic Screening Form: Examples

## Hayward Municipal Code Chapter 9 Article 7

This document accompanies the separate Seismic Screening Form used to comply with Hayward Municipal Code (HMC) Chapter 9 Article 7: Mandatory Seismic Screening of Certain Residential Buildings. It is intended to be helpful to building owners and design professionals, but it does not replace the HMC provisions, the Form, or the discretion of the Building Official.

### PART 2 – SEISMIC SCREENING FORM INSTRUCTIONS AND DEFINITIONS

#### Part 2 questions

1. How many distinct buildings are on this parcel?
2. How many Part 3 sheets are you submitting to cover all of the buildings on this parcel?

**Explanation:** The purpose of Part 2 is to determine how many versions of the Form's Part 3 you will need to cover all the dwelling units on the property, since Part 3 of the basic form covers only one building.

#### Instructions and interpretations:

- Count only buildings that contain dwelling units.
  - **No dwelling units.** Do not count, and do not submit information for, buildings or structures that contain no dwelling units, such as clubhouses, common areas, or standalone garages or carports.
  - **Structurally independent.** Buildings or portions of buildings that are structurally independent of each other should be counted as separate buildings. Buildings can be structurally independent even if they are architecturally connected so that one can walk directly between them without going outdoors. Often, buildings connected by breezeways, covered walkways, or common areas might be structurally independent, either by design (with a seismic joint) or unintentionally (due to a plan irregularity or deficiency). If you are unsure, consult with the Building Division or with a design professional. See example 2.3.
  - **Townhouse structure.** Townhouse or rowhouse structures are multi-unit buildings where each unit has its own dedicated egress. Unless plans show designed separation between units, a townhouse structure should be counted as a single building.
  - **Podium structure.** Residential buildings with a podium structure typically comprise a single concrete structure as the lower portion (often containing a parking garage) with one or more wood frame structures (for commercial or residential units) as the upper portion. Typically, a podium structure should be counted as a single building even if the upper wood portions are separate from each other. In most cases, however, the distinction will be moot, because the concrete podium will rule out the presence of a **wood frame target story**.
- If there is only one building on the property, enter "1" as the answer to Question 2, then go to Part 3.
- If there is more than one building type on the property, complete additional Part 3 sheets for each unique building type. A single Part 3 sheet may be used to cover multiple buildings if they are essentially identical in their key physical attributes.
  - **"Key physical attributes"**. This refers to design age and features, construction type, dimensions, stories, unit count, unit configuration, etc. It does not refer to aesthetic issues, condition, or orientation in plan.
  - **"Essentially identical"**. This means that the answers to the Part 3 questions would be the same for each of them.
- If there is more than one building on the property, assign each building a unique identifier (for example: A, B, etc.).
  - **Owner's choice.** The identifier may be based on the building's unique street address, unit numbers, or any system convenient to you. You may also submit a parcel map if you feel it would be helpful.

**Example 2.1: Parcel with two distinct buildings**

The patio cover has no dwelling units, so it is not counted. Therefore, the parcel has two buildings that must be considered. Because they are not identical, each will require its own Part 3 sheet.



How many distinct buildings are on this parcel? 2

How many Part 3 sheets are you submitting to cover all of the buildings on this parcel? 2

Building IDs: "Front," "Rear."

**Example 2.2: Parcel with three buildings of two types**

The carport is not counted, so the parcel has three buildings that must be considered. The East and West buildings are essentially identical. The North building has a different design.



How many distinct buildings are on this parcel? 3

How many Part 3 sheets are you submitting to cover all of the buildings on this parcel? 2

Building IDs: "East" and "West" on one Part 3 sheet. "North" on a separate Part 3 sheet.



**Example 2.3: Parcel with multiple structurally independent buildings and a common clubhouse**

The carports and clubhouse are not counted. Buildings A, B, and C are connected by breezeways but are structurally independent. Similarly, Buildings E, F, and the Clubhouse are structurally independent. The parcel therefore has seven buildings that must be considered. No two are identical, so separate Part 3 sheets are required.



How many distinct buildings are on this parcel? 7

How many Part 3 sheets are you submitting to cover all of the buildings on this parcel? 7

Building IDs: A through G, each with its own Part 3 sheet.

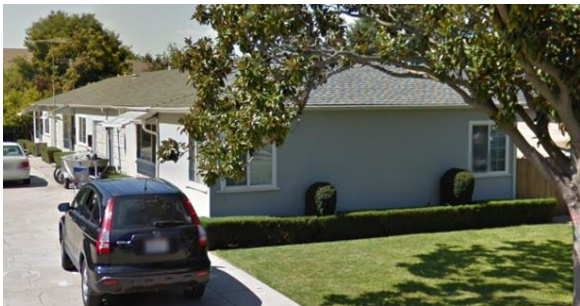
**PART 3 – BUILDING SCREENING INFORMATION****Part 3, Question 3**

3. Two or more stories, or 1 story over crawl space? Yes ☐ No ☐

Number of stories above grade: \_\_\_\_

**Instructions and interpretations:** Answer Yes if the building has an occupiable story over any of the following: a lower occupiable story, a crawlspace, or a basement that extends above grade at any point. An attic with a pitched roof need not be counted as a story.

- The Instructions refer to “crawl space” and “basement that extends above grade” to avoid confusion over the building code’s definition of a “story” or “story above grade plane”. The intent is to quickly exempt 1-story buildings unless they have a condition that *might* be a **wood frame target story**.
- If the crawl space is so short that it has no access opening, do not count it as a story. This condition sometimes occurs where the floor of an occupied unit is wood framed, with the wood joists bearing directly on a perimeter footing.
- For the number of stories above grade, consider the maximum number of stories anywhere within the building plan.

**Example 3.3.1: 3-unit buildings of different heights**

3. Two or more stories, or 1 story over crawl space? Yes ☐ No ☒

Number of stories above grade: 1



3. Two or more stories, or 1 story over crawl space? Yes ☒ No ☐

Yes ☒ No ☐

Number of stories above grade: 2

**Example 3.3.2: Grade varies**

3. Two or more stories, or 1 story over crawl space? Yes ☒ No ☐

Number of stories above grade: 3

## Part 3, Questions 4 and 5

4. **Target story?** Yes ☐ No ☐
5. **Wood frame target story?** Yes ☐ No ☐

## Definitions, instructions, and interpretations:

**Target story.** Either (1) a basement story or underfloor area that extends above grade at any point or (2) any story above grade, where the wall configuration of such basement, underfloor area, or story is substantially more vulnerable to earthquake damage than the wall configuration of the story above; except that a story is not a **target story** if it is the topmost story or if the difference in vulnerability is primarily due to the story above being a penthouse, or an attic with a pitched roof.

- The definition is not meant to require a quantitative structural evaluation. Rather, it is meant to rely on the judgment of the design professional, subject also to the approval of the building official.
- The definition refers to “basement story” and “underfloor area” to avoid confusion over the building code’s definition of a “story” or “story above grade plane.”
  - Example 3.4.1 (left photo) shows a “basement story ... that extends above grade.”
  - Example 3.4.1 (right photo) shows an unfinished “underfloor area” that is full-story height. A crawl space would also be counted as an “underfloor area.”
- A crawl space with wood frame cripple walls normally counts as an “underfloor area,” but certain cripple walls need not be counted as a **target story**. Where all the wood frame walls are solid-blocked and do not exceed 14 inches in height, the underfloor area need not be considered a **target story**; this is consistent with 2016 CBC Table 2308.2.1, Section 2308.5.6, and Section 2308.6.6.2.
- The definition relies on judgment as to whether the wall configuration of a given story is “substantially more vulnerable to earthquake damage” than that of the story above.
  - Wall configuration may be measured by length, location, orientation, and openings.
  - The strength of each wall line is also important, so the design professional should consider differences between unfinished spaces (with exposed wall studs) and finished spaces in which the studs are sheathed or finished on both sides.
  - Wall configuration is often related to occupancy, as the layout and openings of a non-residential lower story are usually different from those of a residential story above.
  - In practice, if most lengths of exterior walls and/or interior partitions in either direction do not align from story to story, or door and window openings change substantially from story to story, the lower story might be deemed “substantially more vulnerable.”
- Steel pipe columns or wood posts, which are common along the open side of a tuck-under parking area, should not be considered to provide any story strength or stiffness for purposes of assessing whether a **target story** exists. If such elements were specifically designed to provide story strength or stiffness, the building official may waive this restriction but will likely ask to review original documentation.
- A building can have more than one **target story**. Buildings on sloped sites often have conditions that involve more than one **target story**; see Example WFTS.3 below.
- Example 3.4.4 shows a case for which the design professional may conclude that a prior retrofit has eliminated what would otherwise be a vulnerable **target story**.
  - If the design professional will attest that the retrofitted story is no longer “substantially more vulnerable to earthquake damage” than the story above, the answer to Question 4 can be No. The Building Division cannot automatically make this assessment because until now, all retrofits have been voluntary and were therefore not reviewed for compliance with any particular standard.
  - If the answer to Question 4 is No based on prior retrofit, provide the project’s permit number. Building Division staff will review the available records but will likely also ask for additional documentation of the design criteria. You are not required to submit the documentation with the form, but you should provide a brief explanation in the Rationale/notes area.
  - To obtain building official approval when “Prior Retrofit” is checked, the prior retrofit work must have been intentionally designed to address the collapse risk posed by a wood frame **target**

**story**, but the design need not comply with all the requirements of HMC Section 9-7.500. This allowance recognizes that consensus retrofit criteria have changed over time.

- A nominal or partial retrofit (such as the installation of a steel frame or wood shearwall on just one line) will generally not be adequate for approval.
- In general, the more recent the retrofit, the clearer the documentation of design criteria similar to those of HMC Section 9-7.500, and the clearer the documentation of construction quality, the more likely it is that the building official will approve the Prior Retrofit claim.

**Wood frame target story.** A **wood frame target story** means a **target story** in which a significant portion of lateral or torsional story strength or story stiffness is provided by wood frame walls.

- This definition requires judgment by the design professional as to whether “a significant portion” of the **target story** strength or stiffness is provided by wood frame walls. The intent of the definition is to allow the design professional to ignore truly nominal or incidental lengths of wood frame walls.
- If, in the judgment of the design professional, *all* of the existing wood frame walls in both directions could be removed from the **target story** with essentially no change in the expected performance, then the wood frame walls might be ignored for purposes of assessing whether a **target story** is also a **wood frame target story**.
- Most buildings will not raise questions about whether a **target story** is also a **wood frame target story**. The question is most likely to arise in buildings where the **target story** is partly below grade or where the grade varies around the building perimeter. In these cases, **target story** walls are more likely to include some combination of wood frame walls and concrete or masonry walls acting as retaining walls or foundation stem walls.
- A story can be a **target story** even if all of its walls are masonry or concrete. In this case, the building has a **target story**, but it does not have a **wood frame target story**, so the answer to Question 5 is No. See Example 3.4.3.

If the answer to both question 4 and 5 is Yes, complete the table below for the lowest **wood frame target story**. Otherwise, give the basis for your No answer and provide your rationale or notes in the space below ...

- See Examples WFTS.1 through WFTS.3.



**Example 3.4.1: Basements and underfloor areas**

Building has three stories above grade, plus a basement that extends above grade.



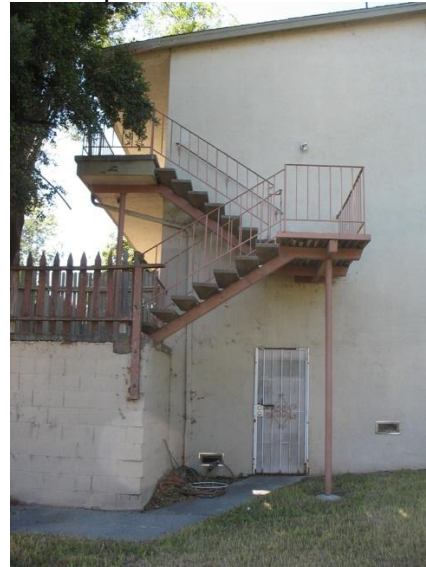
4. **Target story?** Yes ☒ No ☐

5. **Wood frame target story?** Yes ☒ No ☐

If the answer to both question 4 and 5 is Yes, complete the table below ...

**See examples below.**

At left of photo, building is two stories above grade. Due to change in grade, building has an unoccupied underfloor area used for storage.



4. **Target story?** Yes ☒ No ☐

5. **Wood frame target story?** Yes ☒ No ☐

If the answer to both question 4 and 5 is Yes, complete the table below ...

**See examples below.**

**Example 3.4.2: 6-unit buildings of different configurations and ground story uses**

4. **Target story?** Yes ☐ No ☒

5. **Wood frame target story?** Yes ☐ No ☒

... give the basis for your No answer and provide your rationale or notes in the space below:

☐ Evaluation per HMC Section 9-7.400. Submit a copy of the evaluation report with this form.

☐ Prior retrofit. Permit number: \_\_\_\_\_

☒ Professional judgement based on definitions.

Rationale / notes: ***The ground story is not a target story because it has the same wall configuration as the story above.***



4. **Target story?** Yes ☒ No ☐

5. **Wood frame target story?** Yes ☒ No ☐

If the answer to both question 4 and 5 is Yes, complete the table below ...

**See examples below.**

**Example 3.4.3: Non-wood frame target stories**

4. **Target story?** Yes ☒ No ☐

5. **Wood frame target story?** Yes ☐ No ☒

... give the basis for your No answer and provide your rationale or notes in the space below:

☐ Evaluation per HMC Section 9-7.400. Submit a copy of the evaluation report with this form.

☐ Prior retrofit. Permit number: \_\_\_\_\_

☒ Professional judgement based on definitions.

Rationale / notes: ***The ground story is a concrete podium structure. It was not evaluated, so it might be vulnerable and therefore a target story, but it is not a wood frame target story.***



4. **Target story?** Yes ☒ No ☐

5. **Wood frame target story?** Yes ☐ No ☒

... give the basis for your No answer and provide your rationale or notes in the space below:

☐ Evaluation per HMC Section 9-7.400. Submit a copy of the evaluation report with this form.

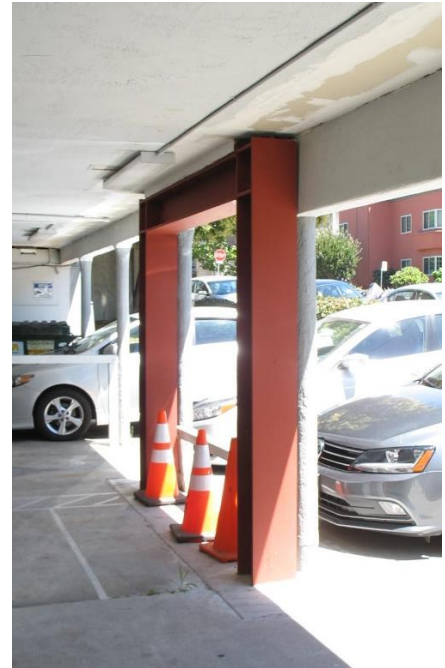
☐ Prior retrofit. Permit number: \_\_\_\_\_

☒ Professional judgement based on definitions.

Rationale / notes: ***The ground story walls are entirely concrete masonry unit (CMU) in both directions. They were not evaluated, so the ground story might be vulnerable and therefore a target story, but it is not a wood frame target story.***



**Example 3.4.4: Prior retrofit.** In the left photo, the yellow box highlights a steel moment frame shown in the right photo.



**4. Target story?** Yes ☐ No ☒

**5. Wood frame target story?** Yes ☐ No ☒

... give the basis for your No answer and provide your rationale or notes in the space below:

☐ Evaluation per HMC Section 9-7.400. Submit a copy of the evaluation report with this form.

☒ Prior retrofit. Permit number: 201803\*\*\*

☐ Professional judgement based on definitions.

Rationale / notes: ***The 2018 voluntary retrofit, designed with CEBC Chapter A4, has eliminated the target story because the ground story is no longer “substantially more vulnerable” than the story above.***

### Part 3, Wood Frame Target Story information

**Instruction:** If the answer to both question 4 and 5 is Yes, complete the table below for the lowest **wood frame target story**.

- Example WFTS.3 shows a building with two **wood frame target stories**. In these cases, information is only required for the lowest WFTS.
- **WFTS lateral system.** This item is meant to capture the existing condition even if it does involve a code-conforming lateral system. In these cases, the walls or frames providing lateral resistance, even if they are inadequate or deficient, will count as the *de facto* lateral system. Steel pipe columns or wood posts, which are common along the open side of a tuck-under parking area, should not be considered part of the lateral system.
- **WFTS configuration.** Examples WFTS.2 and WFTS.3 and 3.4.1 (right photo) all show buildings with a full-story WFTS in which “some walls are also retaining or basement walls.” Example 3.4.1 (left photo) shows a “Basement partly above grade.”
- **Fire sprinklers.** This item is intended to collect available information about conditions in the **wood frame target story**. The response may be based on visual inspection of readily accessible areas only. It is not necessary to confirm that fire sprinklers, if observed, are properly designed, installed, or maintained, or that they are functional.

#### Example WFTS.1: Typical 2-story, 6-unit building



Number of **wood frame target stories**: 1. For the lowest **wood frame target story (WFTS)**, complete the following:

<b>WFTS lateral system</b> (check all that apply)	<b>WFTS configuration</b>	<b>WFTS use/occupancy</b> (check all that apply)	<b>Fire sprinklers present?</b>
<input checked="" type="checkbox"/> Wood frame walls <input type="checkbox"/> Full-height concrete or CMU walls <input type="checkbox"/> Steel frame <input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Full story above grade <input type="checkbox"/> Full story, but some walls are also retaining or basement walls <input type="checkbox"/> Unfinished crawl space <input type="checkbox"/> Hillside underfloor area <input type="checkbox"/> Basement partly above grade	<input type="checkbox"/> Residential unit(s): _____ <input type="checkbox"/> Hotel / motel units: _____ <input type="checkbox"/> Other business / mercantile <input type="checkbox"/> Lobby / tenant common area <input checked="" type="checkbox"/> Parking / storage <input type="checkbox"/> Unoccupied and unfinished	Yes* <input type="checkbox"/> No <input type="checkbox"/> Unknown <input checked="" type="checkbox"/>

\* Checking Yes does not necessarily indicate that the observed sprinklers are compliant, functional, or adequate for their intended purpose.

**Example WFTS.2: 12-unit building with varying grade**

In the parking level, transverse walls and wall segments along the left side are wood frame walls. The end walls and right side wall have partial-height concrete basement walls from foundation to grade level, with wood frame walls up to the underside of the next floor.



Number of *wood frame target stories*: 1. For the lowest *wood frame target story (WFTS)*, complete the following:

<b>WFTS lateral system</b> (check all that apply)	<b>WFTS configuration</b>	<b>WFTS use/occupancy</b> (check all that apply)	<b>Fire sprinklers present?</b>
<input checked="" type="checkbox"/> Wood frame walls <input type="checkbox"/> Full-height concrete or CMU walls <input type="checkbox"/> Steel frame <input type="checkbox"/> Other:	<input type="checkbox"/> Full story above grade <input checked="" type="checkbox"/> Full story, but some walls are also retaining or basement walls <input type="checkbox"/> Unfinished crawl space <input type="checkbox"/> Hillside underfloor area <input type="checkbox"/> Basement partly above grade	<input type="checkbox"/> Residential unit(s): _____ <input type="checkbox"/> Hotel / motel units: _____ <input type="checkbox"/> Other business / mercantile <input type="checkbox"/> Lobby / tenant common area <input checked="" type="checkbox"/> Parking / storage <input type="checkbox"/> Unoccupied and unfinished	Yes* <input type="checkbox"/> No <input type="checkbox"/> Unknown <input checked="" type="checkbox"/>

\* Checking Yes does not necessarily indicate that the observed sprinklers are compliant, functional, or adequate for their intended purpose.



**Example WFTS.3: Hillside building with two *wood frame target stories***

Story 1 is a **WFTS** because it has an open parking area with wood frame walls under three occupied stories. The rear wall of the parking area is a full-height concrete wall that also acts as a retaining wall. Story 2 is also a **WFTS** because at the rear of the building (left side of photo), it is mostly an unfinished crawl space with wood frame walls under two occupied stories. The Form asks only for information about the *lowest WFTS*, so the boxes are checked to indicate conditions in Story 1.



Number of *wood frame target stories*:   2  . For the lowest *wood frame target story (WFTS)*, complete the following:

<b>WFTS lateral system</b> (check all that apply)	<b>WFTS configuration</b>	<b>WFTS use/occupancy</b> (check all that apply)	<b>Fire sprinklers present?</b>
<input checked="" type="checkbox"/> Wood frame walls <input checked="" type="checkbox"/> Full-height concrete or CMU walls <input type="checkbox"/> Steel frame <input type="checkbox"/> Other:	<input type="checkbox"/> Full story above grade <input checked="" type="checkbox"/> Full story, but some walls are also retaining or basement walls <input type="checkbox"/> Unfinished crawl space <input type="checkbox"/> Hillside underfloor area <input type="checkbox"/> Basement partly above grade	<input type="checkbox"/> Residential unit(s): _____ <input type="checkbox"/> Hotel / motel units: _____ <input type="checkbox"/> Other business / mercantile <input type="checkbox"/> Lobby / tenant common area <input checked="" type="checkbox"/> Parking / storage <input type="checkbox"/> Unoccupied and unfinished	Yes* <input type="checkbox"/> No <input type="checkbox"/> Unknown <input checked="" type="checkbox"/>

\* Checking Yes does not necessarily indicate that the observed sprinklers are compliant, functional, or adequate for their intended purpose.